

## CLAIMS:

1            1.        A method of discovering topology of a subnet fabric, comprising:  
2                        providing a plurality of elements in a subnet fabric, said elements including  
3            switches, endnodes, and a subnet manager;  
4                        issuing a packet from said subnet manager to a first switch connected thereto;  
5                        reissuing a packet from said first switch to every element connected thereto;  
6                        repeating said reissuing from every switch which receives a packet until so  
7            that all elements and all paths therebetween have received at least one packet;  
8                        issuing a return packet from an endnode in response to a packet.

1            2.        The method according to claim 1, wherein said packet includes a batch request  
2            for recovering a plurality of information from each endpoint that receives said packet.

1            3.        The method according to claim 1, wherein node identification numbers  
2            identify nodes of said subnet fabric so that path discovery is automatic.

1            4.        The method according to claim 1, wherein said return packets return along the  
2            same path as originally sent unless a switch through which it passes has received an earlier  
3            packet.

1            5.        The method according to claim 1, wherein every element and every port  
2            therein are identified by number and a list is made in every packet of all elements and ports  
3            through which said packet passes.

1           6.       The method according to claim 1, wherein said packet contains a maximum  
2 hop count and a hop pointer indicating if said maximum hop count has been reached.

1           7.       The method according to claim 1, wherein a switch receiving a packet which  
2 has passed therethrough before will issue a return packet.

1           8.       The method according to claim 1, wherein each switch receiving a packet  
2 copies the incoming packet after adding the port number at which the packet is received.

1           9.       The method according to claim 8, wherein the port number through which the  
2 copied packet is to be issued is added before issuing.

1           10.      A method of performing jobs on endnodes of a subnet fabric, comprising:  
2                    providing a plurality of elements in a subnet fabric, said elements including  
3 switches, endnodes, and a subnet manager;  
4                    issuing a packet from said subnet manager to said endnodes through said  
5 switches;  
6                    said packet containing a plurality of job requests in a batch request, each job  
7 request performing a job on each endnode reached;  
8                    each endnode issuing a return signal for each job performed which returns to  
9 said subnet manager.

11. The method according to claim 10, wherein said jobs are get jobs and set jobs.

1 12. The method according to claim 10, further comprising the use of a broadcast  
2 mechanism with batch requests.

3  
4 13. A method of discovering topology of a subnet fabric, comprising:  
5 providing a plurality of elements in a subnet fabric, said elements including  
6 switches, endnodes, and a subnet manager;  
7 assigning a unique identifier to each element and each port thereof in said  
8 subnet fabric;  
9 determining a directed route packet using said identifiers;  
10 issuing said packet from said subnet manager to determine all paths in said  
11 subnet fabric.

1 14. The method according to claim 13, wherein said packet is issued using a  
2 broadcast method.

1 15. The method according to claim 14, wherein said packet is also issued using a  
2 batch request.